

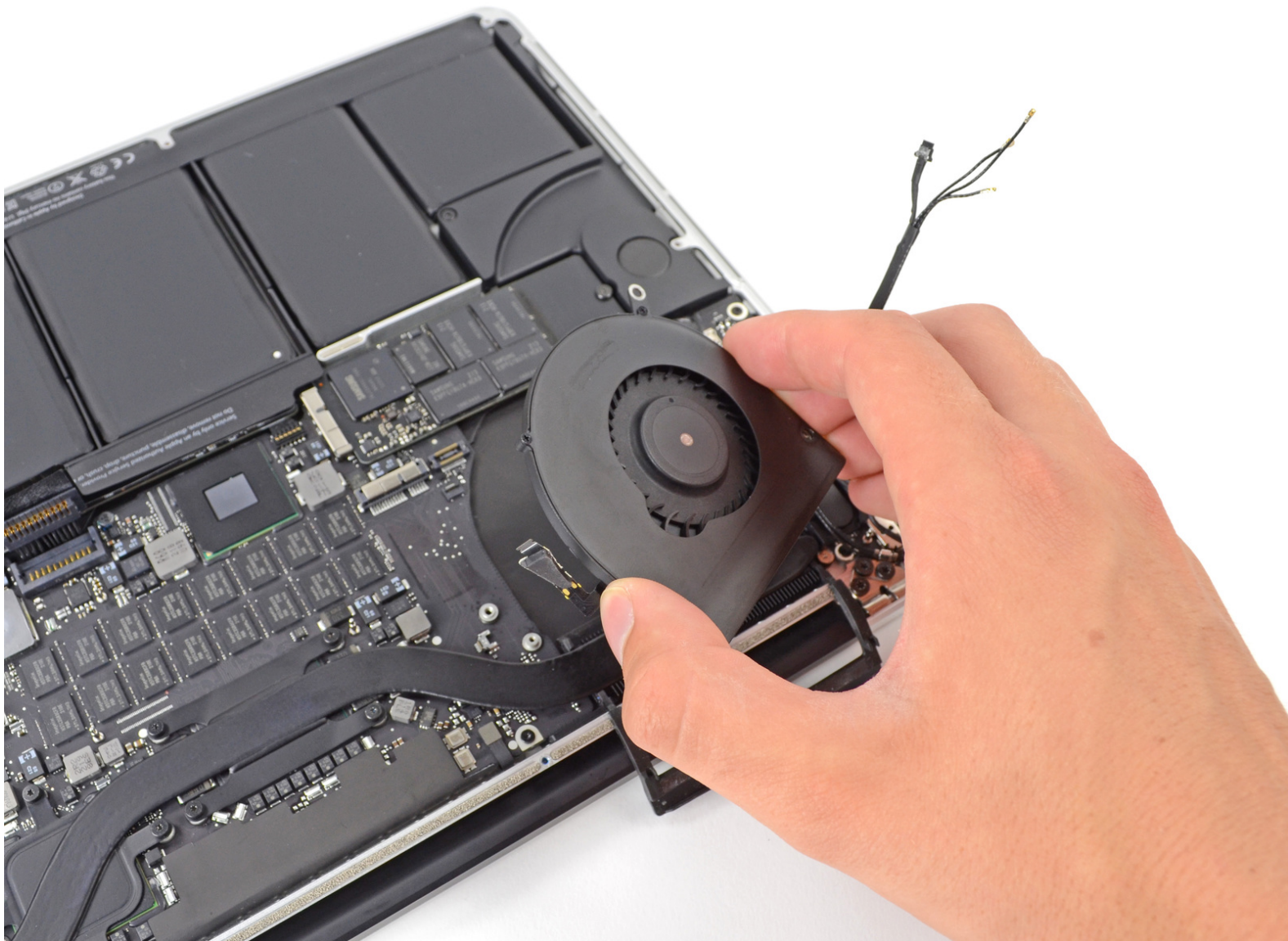


MacBook Pro 15" Retina Display Late 2013

Right Fan Replacement

Replace the Right Fan in your MacBook Pro 15" Retina Display Late 2013.

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INTRODUCTION

Fans can be such blowhards, except when they blow out. Use this guide to help you replace a damaged, broken, or faulty right fan. This fan is located on the right side of the computer, as seen when it is open and in use.



TOOLS:

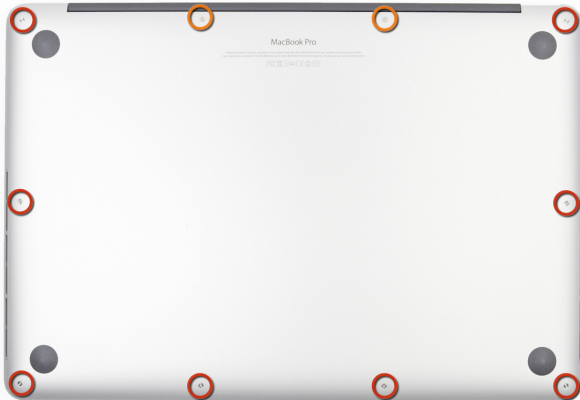
- [MacBook Pro and Air 5-Point Pentalobe Screwdriver](#) (1)
- [Spudger](#) (1)
- [T5 Torx Screwdriver](#) (1)



PARTS:

- [MacBook Pro 15" Retina \(Late 2013\) Right Fan](#) (1)

Step 1 — Lower Case



- Remove the following P5 pentalobe screws securing the lower case to the MacBook Pro:
 - Eight 3.0 mm
 - Two 2.3 mm

Step 2



- Lifting from the edge nearest the clutch cover, lift the lower case off the MacBook Pro.
- Set the lower case aside.

Step 3 — Battery Connector



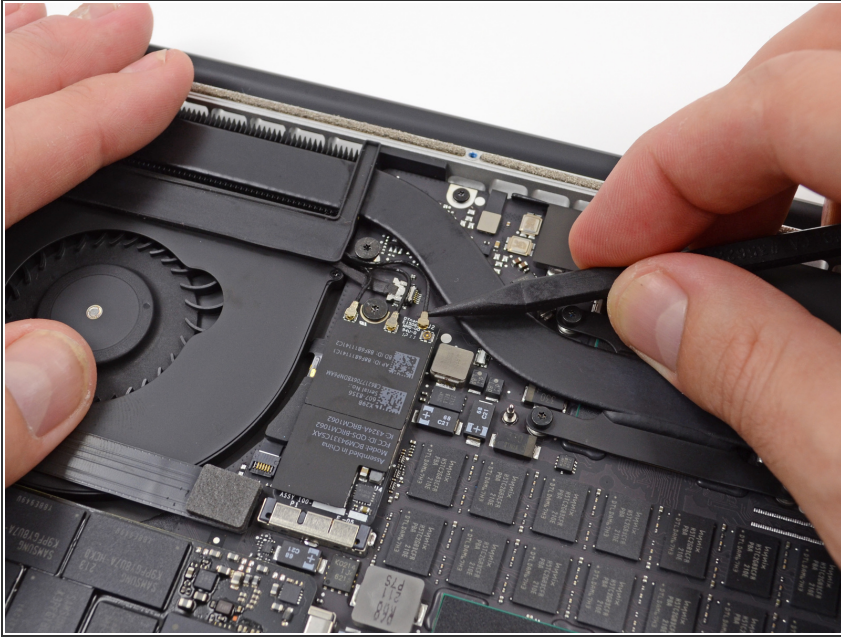
- Peel back the warning label covering the battery connector.

Step 4



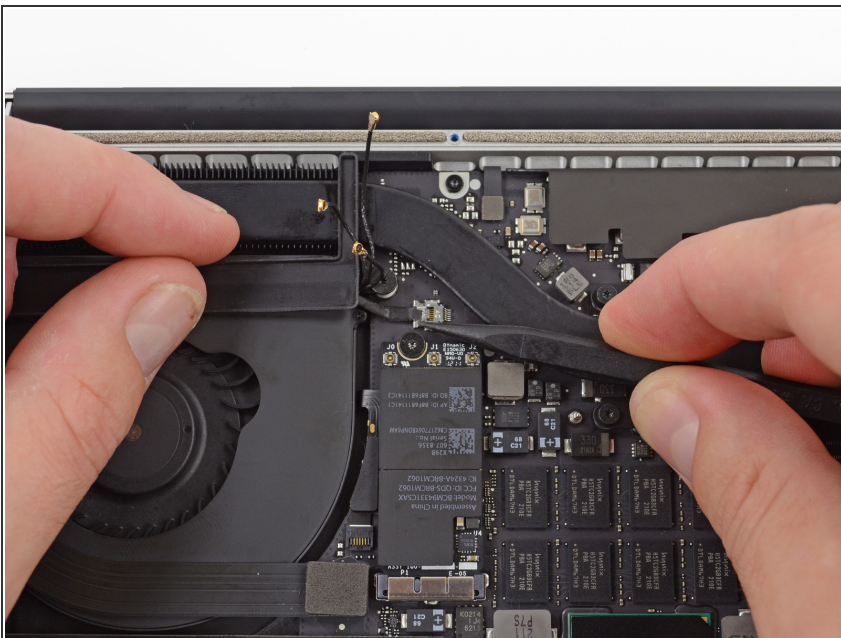
- Using the flat end of a spudger, gently pry the battery connector straight up out of its socket on the logic board.
- Bend the battery cables back and out of the way, ensuring that the battery connector doesn't accidentally make contact with the logic board.

Step 5 — AirPort/Camera Cable



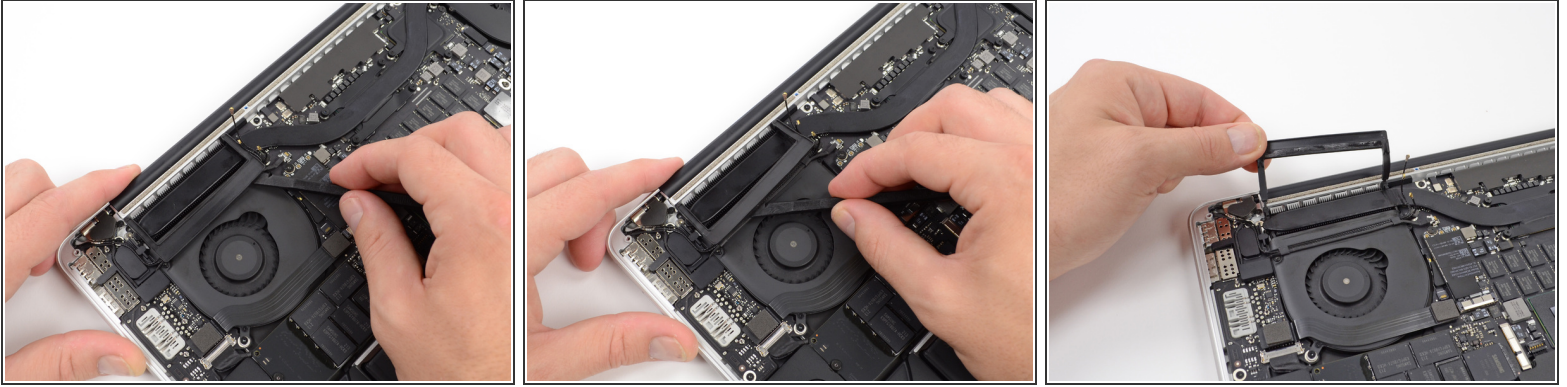
- Use the tip of a spudger to pry the three AirPort antenna cables straight up off of their sockets on the AirPort board.

Step 6



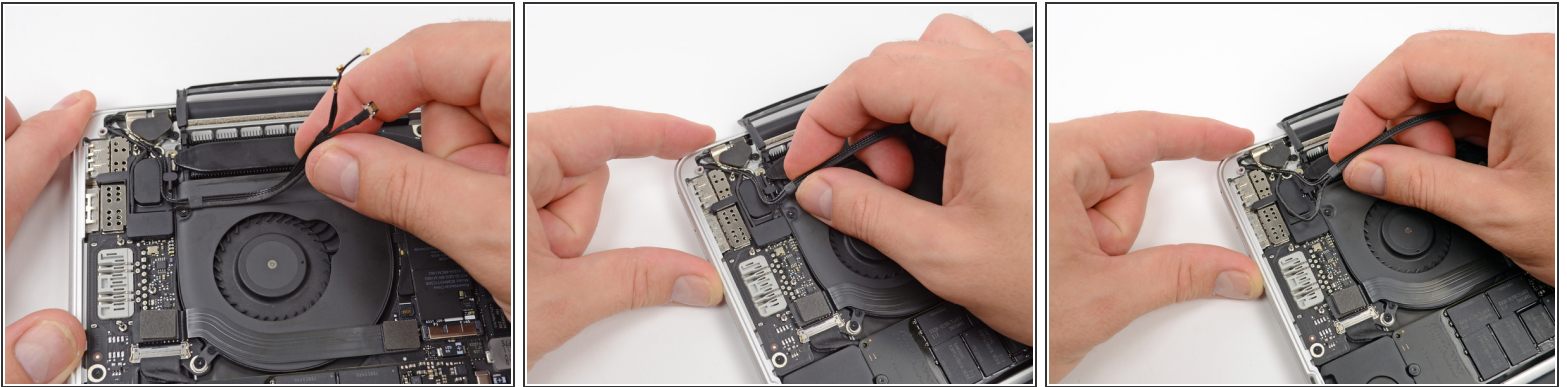
- Use the tip of a spudger to push the camera cable connector out of its socket on the logic board.
- ⓘ Be sure to push parallel to the board, pushing first on one side, then the other to "walk" the connector out of its socket.

Step 7



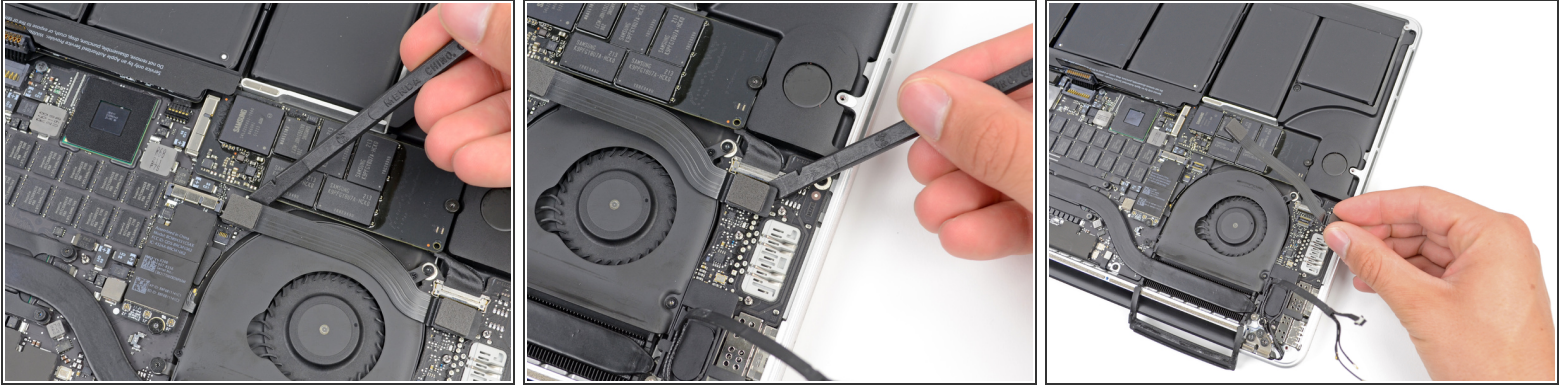
- Insert the flat end of a spudger underneath the rubber heat sink cover on the right fan.
- Slide the spudger underneath the length of the cover, releasing the adhesive.
- Lift the cover and flip it back so that you can access the cables underneath.

Step 8



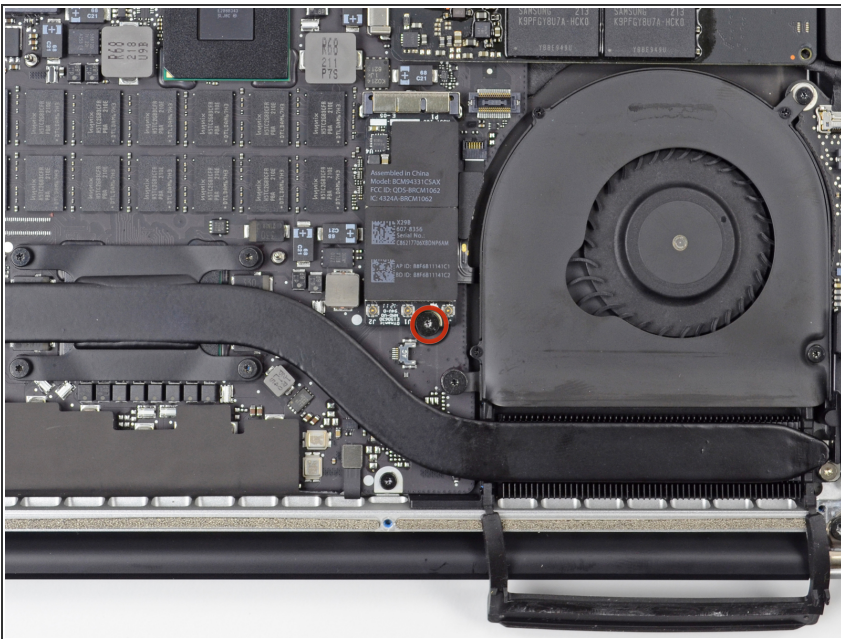
- Use your fingers to pull the AirPort/Camera cables up off the fan.
 - ⓘ The cables are adhered to the fan, so peel them up carefully to avoid damaging them.
- Carefully de-route the cables from the plastic cable guide.

Step 9 — I/O Board Cable



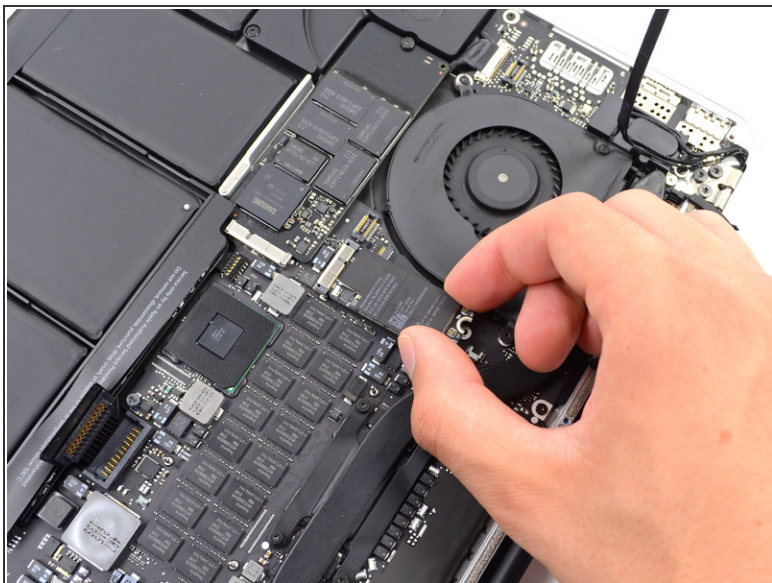
- Using the flat end of a spudger, pry the I/O Board connector straight up out of its socket on the logic board. On reassembly, connect this end first as it does not flex.
- In a similar fashion, remove the I/O Board connector from its socket on the I/O Board.
- Remove the I/O Board cable from the MacBook Pro.

Step 10 — Right Fan



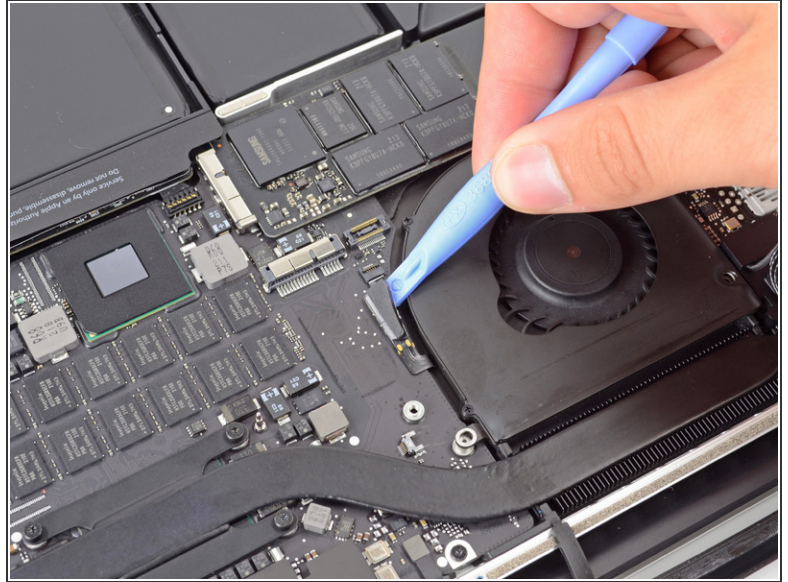
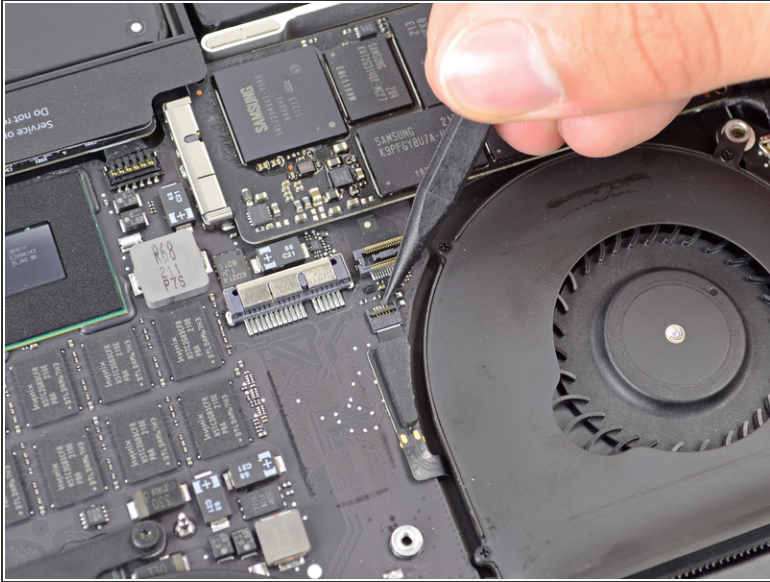
- Remove the single 2.9 mm T5 Torx screw securing the AirPort card to the logic board.

Step 11



- Grasp the thin sides of the AirPort card and pull parallel to the logic board, removing the AirPort card from the MacBook Pro.

Step 12



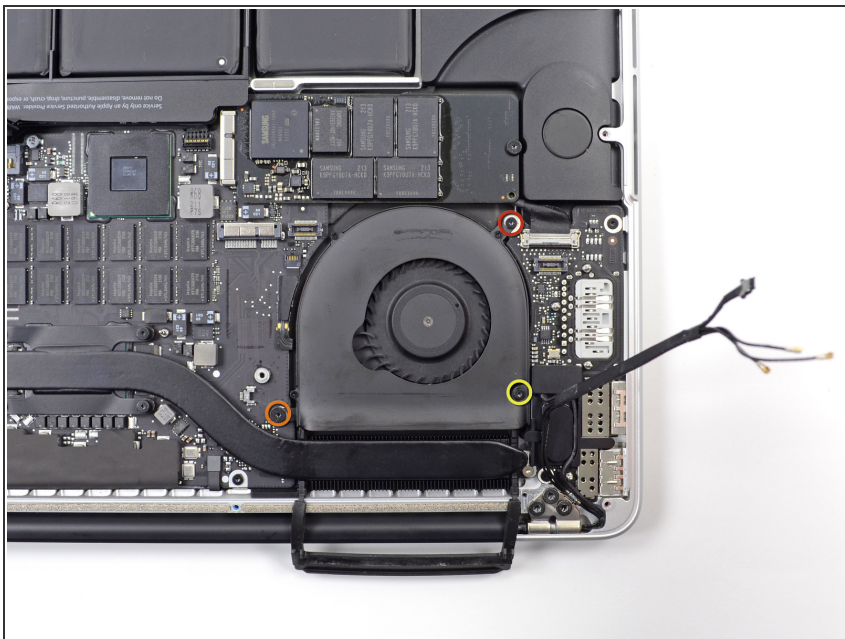
- Use the tip of a spudger to flip up the retaining flap on the right fan ribbon cable ZIF socket.

⚠ Be sure you are prying up on the hinged retaining flap, **not** the socket itself.

- Starting at the top of the cable, slide a plastic opening tool under the right fan cable to free it from the logic board.

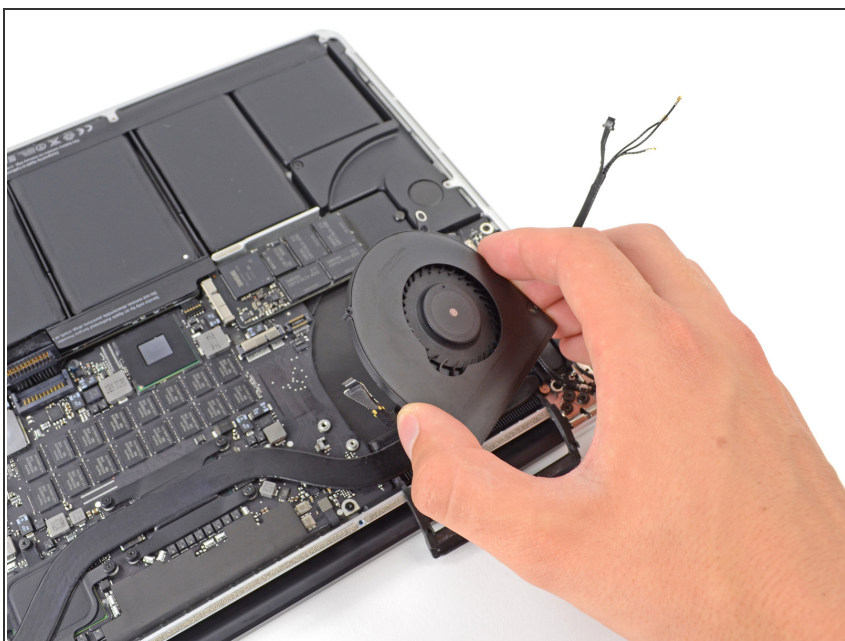
⚠ Use caution when freeing the cable, as it is strongly adhered to the logic board.

Step 13



- Remove the following three screws securing the right fan to the logic board:
 - One 4.4 mm T5 Torx screw
 - One 3.9 mm T5 Wide Head Torx screw
 - One 5.0 mm T5 Torx screw with 2 mm collar

Step 14



- Lift and remove the right fan out from the MacBook Pro.

To reassemble your device, follow these instructions in reverse order.

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